

MULTI-ELEMENT FIELD EMISSION CATHODE

ABSTRACT OF THE DISCLOSURE

[0033] Apparatus and method are provided for using a multi-element field emission cathode in a color cathode ray tube. The field emission cathode may have from four to ten field emission arrays linearly arranged. The arrays are preferably formed from carbon-based material. An electron gun assembly focuses electron beams from each array on to a phosphor stripe or dot on the screen of the cathode ray tube. Deflection apparatus moves the beam from each field emission array according to clock signals. Clock signals also turn on or turn off voltage to contacts controlling electron current from the array. Values of voltage applied, determined by a video signal, determine the intensity of electron current from each array, which controls the intensity of the light emitted by each color stripe or dot of phosphor on the phosphor screen.